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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/717,802

11/20/2003

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04/03/2007

EXAMINER

PIZIALI, ANDREW T

ART UNIT

PAPER NUMBER

1771

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/717,802	Applicant(s) JAFEE ET AL.	
	Examiner Andrew T. Piziali	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 62-82,85-89 and 92-96 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 62-82,85-89 and 92-96 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 12/28/2006 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 72 and 73 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "effective amount" is indefinite.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 62-71, 74-82, 85-89 and 92-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over KAJANDER (US 5,837,620) in view of ARKENS (US 5,661,213).

KAJANDER relates to mats that contain about 25-75 weight percent fibers and about 15-75 percent binder. The fibers may be E-glass fibers with diameters in the range of less than 1 up to 23 microns or higher, with the major portion of the fiber being preferably in the range of about

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6 to 19 microns and most preferably in the range of about 8 to 16 microns. (Col. 2, lines 57-66)

The glass fibers all have about the same target length, such as 0.25, 0.5, 0.75, 1 or 1.25 inch.

(Col. 3, lines 6-7) The mats may have a basis weight of 2.3 pounds per 100 square feet.

(Example 4) The reference teaches using resins that include formaldehyde to bond the fibers together. (Refer to Col. 3, lines 29-42)

While the mat of KAJANDER provides glass fibers with the presently claimed diameter and length, the reference fails to use a binder that is at least partially cured and comprises before drying and curing a homopolymer or a copolymer of polyacrylic acid and a polyol.

ARKENS relates to a formaldehyde-free curable aqueous composition containing a polyacid, a polyol and a phosphorus-containing accelerator. The composition may be used as a binder for heat resistant nonwovens such as nonwovens composed of fiberglass. (Abstract) The reference teaches that the polyacid may be a compound with a molecular weight less than about 1000 bearing at least two carboxylic acid groups and teaches that it may be a polymeric acid that is preferably an addition polymer formed from at least one ethylenically unsaturated monomer (such as methacrylic acid, acrylic acid, among others). (Refer to Col. 3, lines 45 through Col. 4, lines 1-5) The reference further teaches that the polyol may be triethanolamine (Col. 6, lines 1-6) The formaldehyde-free curable aqueous composition may also contain emulsifiers, pigments, fillers, colorants, wetting agents (equated to hydrophilic material), among other components. (Refer to Col. 6, lines 52-57)

Since both references are directed to fiberglass mats, the purpose disclosed by ARKENS would have been recognized in the pertinent art of KAJANDER.

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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of KAJANDER and provide them with the binder composition of ARKENS with the motivation of producing a heat-resistant nonwoven without formaldehyde as disclosed by ARKENS (Col. 1, lines 11-55). It is noted that KAJANDER recognizes the importance of reducing the levels of VOC emissions produced from formaldehyde containing compounds and by using the binder composition taught by ARKENS such emission are eliminated.

Although the prior art of KAJANDER in combination with ARKENS does not explicitly teach the claimed properties, is reasonable to presume that these properties are inherent to a mat from the combination of KAJANDER and ARKENS. Support for said presumption is found in the use of like materials (i.e. nonwoven mat that includes glass fibers with a binder that prior to curing includes a polyacid and a polyol similar to the one claimed herein). The burden is upon Applicant to prove otherwise.

6. Claims 62-71, 74-82, 85-89 and 92-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over JAFFEE (US 6,008,147) in view of ARKENS (US 5,661,213).

JAFFEE discloses a fibrous nonwoven mat that comprises E-glass fibers bound with acrylic copolymer latex. (Col. 1, lines 66 through Col. 2, lines 1-5) The mats contain about 70-85 weight percent fibers and about 15-30 percent acrylic copolymer binder. (Col. 3, lines 34-38) The glass fibers should be at least 0.75 inch long and the reference further teaches fibers with diameters of at least 13 microns. (Col. 3, lines 46-54) The basis weight of the mats may be about 2 pounds per 100 square feet (column 3, lines 34-45) JAFFEE also teaches that the mats can also contain pigments, dyes, flame-retardants, and other additives. (Col. 2, lines 34-38)

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While JAFFEE teaches using cross-linking acrylic copolymer resins in the binder, it is silent to the specific composition of it.

ARKENS relates to a formaldehyde-free curable aqueous composition containing a polyacid, a polyol and a phosphorus-containing accelerator. The composition may be used as a binder for heat resistant nonwovens such as nonwovens composed of fiberglass. (Abstract) The reference teaches that the polyacid may be a compound with a molecular weight less than about 1000 bearing at least two carboxylic acid groups and teaches that it may be a polymeric acid that is preferably an addition polymer formed from at least one ethylenically unsaturated monomer (such as methacrylic acid, acrylic acid, among others). (Refer to Col. 3, lines 45 through Col. 4, lines 1-5) The reference further teaches that the polyol may be triethanolamine (Col. 6, lines 1-6) The formaldehyde-free curable aqueous composition may also contain emulsifiers, pigments, fillers, colorants, wetting agents (equated to hydrophilic material), among other components. (Refer to Col. 6, lines 52-57)

Since both references are directed to fiberglass mats, the purpose disclosed by ARKENS et al. would have been recognized in the pertinent art of JAFFEE.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of JAFFEE and provide them with the binder composition of ARKENS with the motivation of producing a heat-resistant nonwovens without formaldehyde as disclosed by ARKENS (Col. 1, lines 11-55).

Although the prior art of JAFFEE in combination with ARKENS does not explicitly teach the claimed properties, it is reasonable to presume that this property is inherent to a mat from the combination of JAFFEE and ARKENS. Support for said presumption is found in the

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use of like materials (i.e. nonwoven mat that includes glass fibers with a binder that prior to curing includes a polyacid and a polyol similar to the one claimed herein). The burden is upon Applicant to prove otherwise.

7. Claims 72 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over KAJANDER in view of ARKENS or alternatively over JAFFEE in view of ARKENS as applied above, and further in view of BLACK (EP 0378295 A2).

BLACK teaches compositions imparting flame retardant properties to fabrics from synthetic polymer fibers and teaches the use of cyclic organic phosphate. (Abstract) It is the Examiner's position that it would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the mat with an organic phosphate as a flame retardant additive motivated by the desire of providing the fibers with flame retardant properties.

Response to Arguments

8. Applicant's arguments filed 12/28/2006 have been fully considered but they are not persuasive.

The applicant asserts that Kajander fails to teach or suggest the claimed fiber diameter and length. The examiner respectfully disagrees. The fibers may be E-glass fibers with diameters in the range of less than 1 up to 23 microns or higher, with the major portion of the fiber being preferably in the range of about 6 to 19 microns and most preferably in the range of about 8 to 16 microns. (Col. 2, lines 57-66) The glass fibers all have about the same target length, such as 0.25, 0.5, 0.75, 1 or 1.25 inch. (Col. 3, lines 6-7)

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In response to applicant's argument that Kajander does not mention using the mat as a ceiling panel, it is noted that the current claims do not claim a ceiling panel. In addition, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

The applicant asserts that Arkens fails to teach or suggest that the binder is useful to bond glass fibers in a mat. The examiner respectfully disagrees. Arkens discloses that the binder is useful to bond glass fibers in a mat. (column 8, lines 23-36)

The applicant asserts that Arkens fails to teach or suggest that the adhesive would cause a nonwoven fiberglass mat to bond well to wood. Firstly, the examiner contends the applicant has failed to show, or attempt to show, that the adhesive would not cause a nonwoven fiberglass mat to bond well to wood. It is well settled that unsupported arguments are no substitute for objective evidence. Secondly, Kajander discloses that the mats have particular use in bonding to wood but that the mats are also useful as stabilizing and reinforcing substrates for various other products. (column 1, lines 4-13)

The applicant asserts that there is no motivation to combine the references. The examiner respectfully disagrees. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of KAJANDER and provide them with the binder composition of ARKENS with the motivation of producing a heat-resistant nonwoven without formaldehyde as disclosed by ARKENS (Col. 1, lines 11-55). It is noted that KAJANDER recognizes the importance of reducing the levels of VOC emissions produced from

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formaldehyde containing compounds and by using the binder composition taught by ARKENS such emission are eliminated.

The applicant asserts that Arkens fails to teach or suggest the fiberglass claimed limitations. The examiner contends that Kajander is relied upon to teach said claim limitations.

The applicant asserts that the mats have unexpected flame resistance. The examiner contends that applicant has failed to show that the flame resistance is unexpected, or that the alleged flame resistance is sufficiently unexpected to overcome obviousness. The discovery of an undisclosed property of a known material does not provide a patentable distinction over the art of record.

The applicant asserts that Jaffee fails to teach or suggest that the adhesive would cause a nonwoven fiberglass mat to bond well to foam. Firstly, the examiner contends the applicant has failed to show, or attempt to show, that the adhesive would not cause a nonwoven fiberglass mat to bond well to foam. It is well settled that unsupported arguments are no substitute for objective evidence. Secondly, Jaffee discloses that the mats simply have "particular use" in bonding to foam (column 1, lines 4-13)

The applicant asserts that there is no motivation to combine the references. The examiner respectfully disagrees. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of JAFFEE and provide them with the binder composition of ARKENS with the motivation of producing a heat-resistant nonwovens without formaldehyde as disclosed by ARKENS (Col. 1, lines 11-55).

In response to applicant's argument that Jaffee does not mention using the mat as a ceiling panel, it is noted that the current claims do not claim a ceiling panel. In addition, a

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recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

The applicant asserts that the mats have unexpected flame resistance. The examiner contends that applicant has failed to show that the flame resistance is unexpected, or that the alleged flame resistance is sufficiently unexpected to overcome obviousness. The discovery of an undisclosed property of a known material does not provide a patentable distinction over the art of record.

In response to applicant's argument that Black is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Black is reasonably pertinent to the particular problem with which the applicant was concerned which was producing a flame retardant fibrous material.

Conclusion

9. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

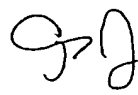
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

atp

 3/28/07
ANDREW PIZIALI
PRIMARY EXAMINER